

REMARKS/ARGUMENTS

In the Office Action, all previous grounds of rejection were withdrawn and new grounds of rejection were raised. Claims 1-4, 6-10, 12, and 14-20 were newly rejected under Section 103(a) as being unpatentable over Fochler (4,741,593) in view of Battle (5,463,187). Claims 5 and 13 were newly rejected under Section 103(a) as being unpatentable over Fochler (4,741,593) in view of Battle (5,463,187) and further in view of Vogelsang (5,236,016). Claim 11 was objected to as being dependent on a rejected base claim.

Applicant's attorney expresses appreciation to Examiner Patel for discussing this patent application by telephone on November 19, 2003. During that interview, the Section 103(a) rejection of claims 1-4, 6-10, 12, and 14-20 based upon the Fochler and Battle patents was discussed. Applicant's attorney summarized several arguments why it would not have been obvious to replace Fochler's "thin, encircling flexible sheath or overwrap"¹ with Battle's corrugated "outer casing." Examiner Patel clarified his rejection and emphasized that the rejection was **NOT** based upon *replacing* Fochler's flexible sheath with Battle's corrugated outer casing, but that the rejection is based *modifying* Fochler's "thin, encircling flexible sheath or overwrap" to be corrugated. Examiner Patel explained that the key to his rejection is the reference in column 1, lines 55-59 of Fochler referring to U.S. Pat. No. 4,039,248 to Franke et al., which states:

Franke et al U.S. Pat. No. 4,039,248 describes a fiber-like conductor which is housed within a tubular sheath. The sheath may be corrugated for the purpose of retaining the fiber-like conductor in a desired undulating configuration within the sheath.

Examiner Patel interpreted this statement to mean that "it is well known to have an outer sheath that may be corrugated ... for the purpose of retaining the fiber like conductor in desired undulating configuration within the sheath." Office Action, page 3.

Applicant's attorney explained that he had reviewed the Franke et al. patent and found it to be irrelevant to the Section 103(a) rejection because it did not suggest modifying Fochler's

¹ Fochler, column 2, lines 5-6.

“thin, encircling flexible sheath or overwrap” to be corrugated. In fact, the Franke et al. patent has nothing to do with an outer casing for a multiple channel duct manifold system.

The Franke et al. patent is drawn to a tubular protective sheath for glass optical fibers. Franke noted that the prior art disclosed glass fibers arranged to be as straight as possible inside their protective sheaths. Franke’s invention disposed the glass fibers inside the hollow, tubular protective sheath in a wave-like (sine wave) configuration so that the glass fiber was not stretched-out in a straight configuration. This may be accomplished by constructing the protective sheath with periodic corrugations to hold the glass fiber in its wave-like configuration. The glass fiber may be disposed in a single geometric plane or in multiple planes. Franke does not suggest placing multiple glass fibers within the tubular protective sheath.

The Franke et al. patent has nothing to do with a multiple channel duct assembly or with an outer duct for such assembly, and especially a multiple channel duct assembly comprising “a *plurality* of plastic inner ducts *contiguous*, co-directionally extending, *substantially parallel*, in abutting contact with each other.” Franke teaches and suggests that if one skilled in the art desires to maintain an inner glass fiber in a wave-like configuration, then periodic corrugations in the outer protective sheath may be used. Franke is directed to a protective sheath for a glass fiber, not an outer sheath, duct, or casing or a plurality of inner ducts. Since a wave-like configuration for the inner ducts is contrary to the pending claims, Franke teaches and suggests away from the claimed invention. Applicant respectfully submits that the citation to Franke et al. in the Office Action would not motivate one skilled in the art to modify Fochler’s thin, encircling flexible sheath to be corrugated because Fochler’s tubular sections are not intended to be in a wave-like or undulating configuration, but are intended to be tightly wrapped together by the flexible sheath.

The Office Action (page 3) then referenced Battle, which discloses a corrugated outer casing, and concluded:

Therefore, it would have been obvious ... to provide said outer duct 20 of the assembly of Fochler being corrugated including a plurality of contiguous ridges and trough extending over the entire length as taught by Battle ... *for the purpose of retaining said inner ducts in desired undulating configuration within the outer duct.*

The “purpose of retaining [the] inner ducts in desired undulating configuration within the outer duct” is *directly contrary to the recited claim language*. The claims require the plastic inner ducts to be “contiguous, co-directionally extending, [and] substantially parallel. Thus, the inner ducts cannot be in an undulating configuration within the outer duct. Moreover, an undulating configuration is clearly not “desired” since it is contrary to the claimed invention.

Therefore, Applicant submits that the Examiner’s stated “purpose” would not have motivated one skilled in the art to modify the Fochler device to arrive at the claimed invention. Indeed, no other purpose or motivation to modify Fochler’s thin, encircling flexible sheath to be corrugated is provided in the Office Action. Given the absence of motivation to modify the Fochler patent in a manner consistent with the claimed invention, *prima facie* obviousness has not been established. MPEP 2143.01.

MPEP 2143.01 further states that “[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). In this case, the proposed modification is for the inner ducts to be in a “desired undulating configuration within the outer duct.” This would change the principle of operation of Fochler which requires the thin, encircling flexible sheath to be “wrapped tightly around the sections of conduit as illustrated in FIG. 1.” Fochler, column 3, lines 35-37.

Fochler in view of Battle. According to the Office Action, the Battle patent was cited for the purpose of disclosing a corrugated outer duct having ridges and troughs extending over the entire length encircling the inner ducts to retain them in their contiguous relationship. Applicant respectfully submits that neither Fochler nor Battle suggest modifying Fochler’s thin flexible sheath or film to have a plurality of contiguous ridges and troughs extending over the entire length “as taught by Battle.”

The rejected claims recite that the plastic outer duct has “a plurality of contiguous ridges and troughs extending over the entire length, wherein the troughs are in contiguous relationship with the inner ducts.” Battle discloses an outer casing that is “*circumferentially corrugated* to define a multitude of adjacent annular ridges.” Battle, column 5, line 45 and Figure 3.

Importantly, Battle's outer casing is "formed with an *interior surface 18 that is substantially smooth.*" Battle, column 5, lines 48-49. While Battle discloses exterior ridges, Battle fails to disclose a plurality of troughs, and particularly troughs that are in contiguous relationship with the inner ducts. Battle's outer casing, therefore, lacks a plurality of contiguous ridges and troughs extending over the entire length, wherein the troughs are in contiguous relationship with the inner ducts. According, Applicant respectfully submits that even if Fochler is modified with a corrugated outer casing "as taught by Battle," the resulting combination would not meet all of the recited claim limitations. Therefore, the rejected claims would not have been obvious from the combined teachings of Fochler and Battle.

In addition, the corrugated outer casing "as taught by Battle" is provided in twenty-foot sections which are assembled end-to-end at the job site. See, Battle, column 2, line 67-column 3, line 1; column 3, lines 15-17; column 3, lines 60-63; column 5, lines 37-39. In contrast, Fochler's duct manifold system has a "length from about 20 feet to about 2000 feet, and a number sections of the conduit are usually spliced or connected together in end-to-end relation so that the overall length of the newly connected conduit sections may be many miles in length." Fochler, column 3, line 28-32. Thus, Battle's twenty-foot long outer casing sections are not compatible with the extended length conduit of Fochler, and one skilled in the art would not have been motivated to modify Fochler's thin flexible sheath or film to have a plurality of contiguous ridges and troughs extending over the entire length "as taught by Battle."

Fochler's thin flexible sheath or film is constructed of very thin polymeric material having "about 5 mils to 15 mils in thickness." Fochler, column 3, line 40. Fochler describes the thin flexible sheath as follows:

The several tubing sections are held in contiguous abutting relationship, with their longitudinal axes extending substantially parallel, by a thin, *encircling flexible sheath or overwrap* of synthetic resin. Col. 2, lines 3-6.

... a plurality of corrugated synthetic resin tubes or conduits are laid in abutting relationship to each other with their axes extending parallel, and then *overwrapped with a film of synthetic resin material* Col. 2, lines 18-22.

... a plurality of tubular sections are laid one upon the other and *harnessed into a bundle* by the use of a flexible overwrap element. Col. 2, lines

28-30. [harness means to tie together, Webster's Ninth New Collegiate Dictionary, 1991]

For the purpose of retaining the manifolded corrugated conduit or duct sections in contiguous and abutting relationship to each other, a thin flexible film or sheath 20 of synthetic resin is *wrapped tightly around the sections of conduit* as illustrated in FIG. 1. Col. 3, lines 34-38.

From the foregoing, Applicant submits that Fochler's multiple channel duct manifold is prepared by positioning together a plurality of flexible inner ducts and then encircling them with the thin flexible film, which is tightly wrapped around the inner ducts to "harness" them into a bundle. In contrast, Battle's outer casing 13 is not sufficiently thin and flexible to be "wrapped tightly around the sections of conduit." Battle's inner ducts are positioned within the outer casing using specially designed couplers to allow the inner ducts to expand and contract when the entire assembly is bent and to space the inner ducts apart from themselves and from the outer casing. Therefore, Applicant submits that Battle's corrugated outer casing could not be "wrapped tightly around the sections of conduit" as taught by Fochler. Accordingly, one having ordinary skill in the art would not have been motivated to modify Fochler's thin flexible sheath to have corrugations "as taught by Battle."

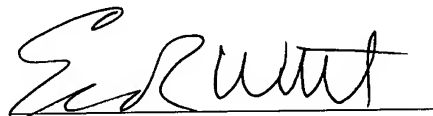
In view of the foregoing, Applicant submits that prima facie obviousness has not been established. Withdrawal of the rejection and allowance of claims 1-4, 6-10, 12, and 14-20 is respectfully requested.

Rejection of Claims 5 and 13. The Office Action rejected claims 5 and 13 as being unpatentable over Fochler in view of Battle and further in view of Vogelsang (U.S. Patent No. 5,236,016). The Vogelsang patent was cited for the purpose of disclosing inner ducts connected by flexible connecting webs. While Vogelsang discloses flexible connecting webs, it fails to disclose the limitations and features of independent claims 1 and 10 that are lacking in Fochler and Battle, discussed above. Since the cited prior art, in combination, fails to disclose and suggest each and every limitation set forth in claims 5 and 13, Applicant submits that claims 5 and 13 would not have been obvious under Section 103(a) based upon the combined teachings of Fochler, Battle, and Vogelsang. Withdrawal of the rejection is respectfully requested.

In re Span-Deck. The Office Action cited the decision in In re Span-Deck, Inc. v. Fab-Con, Inc. as supporting several claim rejections. This 8th Circuit decision is not binding precedent for the U.S. PTO and the Federal Circuit. More importantly, the facts of this case are not relevant to the facts of the present invention. At issue in the Span-Deck case was the validity of the Mitchell patent relating to a process for preparing prestressed, precast, hollow-core, structural concrete planks. The Mitchell patent recited three process areas (manufacturing, curing, and unloading) in collinear relationship. These areas were well known and present in prior art concrete casting systems. Some of the prior art contained suggestions of aligning these areas in a collinear arrangement. The court concluded: "The particular collinear configuration taught by the Mitchell patent appears to be no more than a logical and obvious step forward" and held that the claims were unpatentable. The facts of Span-Deck are substantially different than those of the present application. This is not a case where all of the claimed structural features were well known and the claimed alignment was suggested in the prior art. Therefore, Applicant submits that In re Span-Deck fails to support the foregoing rejections.

Applicant is very anxious to resolve any outstanding issues and place the application in condition for allowance. If there are any unresolved issues preventing allowance of this application, the Examiner is respectfully requested to telephone the undersigned.

Respectfully submitted,



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